

ABSTRACT OF THE DISCLOSURE

The present invention discloses a network address forwarding table lookup apparatus and method for identifying a network address to determine a next hop address to which data packets having the network address should be forwarded. The apparatus comprises a memory storing a compression-trie forwarding table. The forwarding table has multiple level modules in a compression-trie structure. With the present invention, it is possible to achieve fast IP address lookup with a compact-sized compression-trie forwarding table.